



RE: SWMM Bozeman

Makus, Erik

to:

Lisa Kusnierz

10/18/2012 02:13 PM

Cc:

"Schmidt, Christian"

Hide Details

From: "Makus, Erik" <EMakus@mt.gov>

To: Lisa Kusnierz/MO/R8/USEPA/US@EPA,

Cc: "Schmidt, Christian" <CSchmidt2@mt.gov>

History: This message has been replied to.

Hi Lisa,

I did start a write-up, but it is unfinished, mostly due to unanswered questions about what to do with bacteria, calibration, BMPs, and other unknowns. I am also not familiar with what exactly we did in the TMDL – I helped with a table or two last winter, but haven't seen anything else.

I think the city has some good points. This model is uncalibrated. Period. There is no data to calibrate to, HDR had no data to calibrate to (or very little). I mentioned this several times throughout the process, and it is in the model write-up as well. Without specific calibration data, this tool (model) is probably best used as a guide for *relative* reductions, and should not be the sole source for making absolute load allocations (I don't think it was). Also, we had no info on existing BMPs in the system.

Having said that, the city's second question is easier to answer – we agree the City's stormwater system is poorly mapped (in fact, we agree the City has done an *incredibly poor* job of mapping their stormwater system!). However, I don't think this affects the model too much as this is a loading model, not a hydraulic model. If the runoff is generated, it's working its way to the appropriate outfall (as defined by the City and HDR). The City is small enough and has very few ponds in it (it appears), so travel time of runoff is likely short). I could provide additional data about mods, and input/output (although again, this is completely uncalibrated data).

Finally, we did do some research into EMC values and this is well documented with references. I think it was solid research and probably a reasonable estimate for EMC values, and also somewhat reasonable (without calibration) for runoff.

Give me a call if you'd like – thanks,

Erik

Erik Makus

Hydrologist

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Water Quality Planning Bureau

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**From:** Kusnierz.Lisa@epamail.epa.gov [<mailto:Kusnierz.Lisa@epamail.epa.gov>]

**Sent:** Wednesday, October 17, 2012 2:37 PM

**To:** Makus, Erik

**Cc:** Schmidt, Christian  
**Subject:** Re: SWMM Bozeman

Hi Erik,

Here are the model-related comments we received for sediment from the city...

"Regarding the MS4 Permit, use of the existing SWMM model is a very poor tool for developing the TMDL background load and proposed allocation. The SWMM model was conducted on a very limited portion of the City's MS4 system, is not representative of the entire MS4 system, and was not calibrated at the time of original development. The data used and shown in Figures 5-5 and 5-6 are from our very limited DMR sampling and only uses the two sampling locations selected for our MS4 permit. Not only is the data set small, but the locations used are very limited in encompassing the characteristics of the City's stormwater. The 'industrial site' sampled near our shops is consistently very high in pollutants and isn't indicative of Bozeman stormwater."

"In addition, the City's stormwater system is poorly mapped and incapable of being utilized for a system-wide stormwater model. If the department utilized this model, please provide additional data indicating what modifications were made to the original model and associated calibration data. A synopsis of the changes should be included in the TMDL document and, at a minimum, input and output data from the model run should be included within an appendix at the end of the TMDL."

I remember seeing a write-up you did for the model but did you ever write an official report we could cite or attach to the document? My current section briefly discusses the model and then references Christian's discussion for more details.

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Lisa Kusnierz  
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▼ "Schmidt, Christian" ---10/17/2012 01:52:38 PM---Erik, Lisa Kusnierz is addressing public comments for the Lower Gallatin document. She needs to kn

From: "Schmidt, Christian" <[CSchmidt2@mt.gov](mailto:CSchmidt2@mt.gov)>  
 To: "Makus, Erik" <[EMakus@mt.gov](mailto:EMakus@mt.gov)>  
 Cc: Lisa Kusnierz/MO/R8/USEPA/US@EPA  
 Date: 10/17/2012 01:52 PM  
 Subject: SWMM Bozeman

Erik,

Lisa Kusnierz is addressing public comments for the Lower Gallatin document. She needs to know what the assumptions or changes were to the SWMM model that HDR developed that you then used. Her office number is 457-5001 if you need to contact her.

Thanks for your help,  
 Christian

Christian Schmidt  
Senior TMDL Planner, MT DEQ  
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